IN THE CLAIMS:

1.(currently amended) A ceramic composite electrolytic device for generating electrical power or for generating oxygen comprising:

a plurality of electrically connected solid state electrolytic ~~electrical power generating~~ cells, each of said cells ~~including~~ comprising:

a ceramic composite body with first and second electrically conductive porous gas permeable electrode layers on opposite surfaces of said ceramic composite body, said first layer forming an anode and said second layer forming a cathode, and

a bipolar metal member for engagement with said ceramic composite body of said cell on one side, and with said ceramic composite body of another adjacent cell on the other side,

said ceramic composite body further comprising a metal member having a ~~regular~~ pattern of openings formed within a ~~center~~ portion of the metal member for supporting a ceramic material ~~and such pattern and openings have no sharp corners~~,

~~said bipolar metal member and said metal member of said ceramic composite body interconnected at a gas tight seal surrounding said ceramic material to form a fuel chamber, and together forming an output for removing exhaust generated in said fuel chamber of said cell,~~

~~said device further including a heat unit for heating said plurality of cells to a desired reaction temperature~~, said device further comprising a power connection connecting the output of said cells ~~cell~~, ~~a fan for supplying air~~ and an air supply to said cathode of said cell~~, and a fuel supplied to said plurality of cells for reacting with said plurality of~~

~~interconnected cells to generate electrical power within said fuel chamber~~.

2. (cancelled)

3. (cancelled)

4. (currently amended) A method for manufacturing a ceramic composite oxygen or power generating cell comprising the steps of:

providing ~~a layer of ceramic material such as stabilized zirconia to~~ a metal member having a section with a pattern of openings ~~with no sharp corners~~ within a ~~center~~ portion of the metal member for ~~intersupporting the~~ supporting a ~~the~~ ceramic material, said metal member further having a perimeter;

applying a ceramic material to the section with the pattern of openings,

firing said metal member supporting the ceramic material to create a ceramic composite member;

coating at least a portion of said ~~center~~ portion of said ~~metal member forming~~ ceramic composite member with an electrically conductive material;

firing said electrically conductive material with said ~~metal member forming said~~ ceramic composite member to form electrode layers;

~~welding said metal member surrounding said ceramic composite member with~~

providing a bipolar metal member having contact portions extending outwardly in one or two directions from a plane of the bipolar metal member for engagement with said ceramic composite metal member;

connecting the bipolar metal member to the perimeter of said metal member, which metal member forms the ceramic composite member;

wherein ~~forming~~ ~~an~~ ~~air~~ a gas tight chamber is formed between said ceramic composite member and said bipolar metal member ~~for generating electrical power~~.

5.(currently amended) The method of Claim ~~3~~ 4, wherein the step of ~~providing~~ applying the layer of ceramic material to the hole pattern of the metal member comprises dipping.

6.(New) The method of Claim 4, wherein a chamber is formed between said ceramic composite member and said bipolar metal member.

7.(New) The method of Claim 4, wherein the said bipolar metal member and said metal member of said ceramic composite body form an output for removing exhaust generated in said fuel chamber of said cell.

8. (New) The method of Claim 6, further comprising the step of applying an electrocatalyst layer to the ceramic material of the ceramic composite body after the step of making the ceramic metal composite and before the step of forming the electrode layers.

9. (New) The method of Claim 6, further comprising the step of providing a current collector between the electrode layer and the bipolar metal member.

10. (New) The method of Claim 6, further comprising the step of sealing the ceramic composite member with seal slip coat.

11. New) The method of Claim 6, further comprising the step of attaching at least one metallic frame to said bipolar metal member.

12. (New) The method of Claim 6, wherein the gas tight seal is formed by welding.

13. (New) The device of Claim 6, further comprising the step of: forming three dimensional structures on the surface of the bipolar metal member.

14. (New) The device of Claim 12, wherein the three dimensional structures are formed by embossing.

15. (New) The device of Claim 6, wherein the pattern of openings is formed by photochemical etching or photolithography.

16.(New) The method of Claim 6, further comprising the steps of:

sealing the ceramic composite member with a seal slip coat;

attaching at least one metallic frame to said bipolar metal member, for supporting said bipolar member,

wherein: the bipolar metal member has three dimensional structures on the surface thereof and an electrical contact layer dispose on said three dimensional structures; and the metal member of said ceramic composite body has a thickness of from 0.001 to 0.008 inches.

17. (New)The method of Claim 16, further comprising the steps of:

providing an output for removing exhaust generated in said cell;

providing a heat unit for heating said plurality of cells to a desired reaction temperature;

providing a fan for supplying air;

providing at least one arm extending from the ceramic composite body.

18. (New) The device of Claim 6, wherein the pattern of openings is a hexagonal close pack cell pattern, and said metal member of said ceramic composite body has a thickness of from 0.001 to 0.008 inches.

19. (New) The method of Claim 16, further comprising:

providing a fluid fuel input in an arm;

providing a gas output in an arm;

wherein:

the fluid fuel input and the gas output are in the same or different arms.

20. (New) The method of Claim 19, further comprising the step of:

applying an electrocatalyst layer between the step of making the ceramic metal composite and applying the electrode.

21. (New) The method of Claim 6, further comprising the step of:

disposing solid fuel between the bipolar metal member and the metal member of said ceramic composite body member.

22. (New) The method of Claim 6, wherein

the electrode layer comprises silver;

the electrode layers are comprised of silver and a second metal selected from the group consisting of: gold; platinum; palladium; iridium; and mixtures thereof;

the electrocatalyst layer where present, is comprised of a mixture of solid electrolyte particles and transition metal

oxide particles; wherein the transition metal oxide is selected from the group consisting of ruthenium oxide, iridium oxide, and mixtures thereof.

23. (New) A method of manufacturing a ceramic composite oxygen or power generating cell **stack** comprising the following steps:

a. providing at least two ceramic composite cells: a first cell and a second adjacent cell, each cell comprising:

a ceramic composite body comprising: a metal member, having a pattern of openings formed within a portion of the metal member for supporting a ceramic material; a ceramic material disposed on said pattern of openings;

a first and second electrically conductive porous gas permeable electrode layers on opposite surfaces of said ceramic composite body, said first layer forming an anode and said second layer forming a cathode;

a bipolar metal member for engagement with said ceramic composite body of said cell on one side, and with said ceramic composite body of another adjacent cell on the other side;

wherein said bipolar metal member and said metal member of said ceramic composite body are interconnected at a gas tight seal surrounding said ceramic material to form a ~~fuel~~ gas tight chamber and together forming an output for removing exhaust generated in said ~~fuel~~ gas tight chamber of said cell; and

b. interconnecting the ceramic composite cells so that said ceramic composite cells are arranged in electrical series and gas parallel.

24.(New) The method of Claim 23, further comprising the step of:

disposing said stack at least partially within a thermal shell.

25.(New) The method of Claim 24, wherein said thermal shell has a first, a second and a third concurrent metal layer.

26. (New) The method of Claim 24, further comprising the step of:
surrounding said stack with insulating materials before inserting said stack into the thermal shell.

27.(New) The method of Claim 23, further comprising the step of:
providing at least one current collector interspaced between the electrode layer of one cell and the bipolar metal member of the adjacent cell.

28. (New) The method of Claim 23, further comprising the step of:
providing a heating element to each end of the stack.

29. (New) The method of Claim 23, further comprising the steps of:
disposing said stack at least partially within a thermal shell;
surrounding said stack with insulating materials before inserting said stack into the thermal shell;
providing at least one current collector interspaced between the electrode layer of one cell and the bipolar metal member of the adjacent cell; and
providing a heating element to each end of the stack.

30.(New) The method of Claim 29, wherein the cells further comprise:

three dimensional structures on the surface of the bipolar metal member;

ceramic composite member with seal slip coat;

at least one metallic frame to said bipolar metal member, for supporting said bipolar member,

wherein the metal member of said ceramic composite body has a thickness of from 0.001 to 0.008 inches.

31.(New)The method of Claim 29, wherein the cells further comprise:

an output for removing exhaust generated in said cell;

a heat unit for heating said plurality of cells to a desired reaction temperature;

a fan for supplying air;

at least one arm extending from the ceramic composite body.